



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,985	12/05/2003	Katsuhito Gomi	Q78836	7242
23373	7590	11/29/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			LEE, PETER	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/727,985	Applicant(s) GOMI ET AL.	
	Examiner Peter Lee	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/05/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Replace "pr ss" with -- press -- on page 4 line 3.

Replace "Th " with -- The -- on page 15 line 1.

Replace "cas " with -- case -- on page 9 line 2.

On page 22 line 12 of the application, applicant refers to parts "80" and "83" in figures 5 and 6. There do not exist such parts in the mentioned figures. It is suggested to replace "80" with --180-- and "83" with --183-- to match the existing reference parts and numbers in the mentioned figures 5 and 6.

Appropriate correction is required.

Claim Objections

2. Claim 5 is objected to because of the following informalities:

Replace "f" with --of-- on page 29 line 9 of the application.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2852

4. Claims 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yajima et al. (US pn 5517292).

Yajima teaches a fusing apparatus (fig. 6 part 30), comprising: a heating roller (fig. 6 part 2) (ie. fixing member), rotated by turning on a power to the main device (col. 4 lines 33-35) (ie. driven so as to rotate); a back up roller (fig. 6 part 4) (ie. pressing roller), rotated in a direction in response to the rotation of the heater roller (col. 4 lines 35-37) (ie. by being brought into press contact with the fixing roller) so that a nip zone, n, is formed (fig. 6 reference n; note col. 8 lines 25-26) (ie. press contact portion is formed); and a separation unit (fig. 6 part 35; note col. 8 lines 30-35) (ie. an exfoliating member), the separation unit is utilized to strip paper adhering to the heater roller from the heater roller (col. 8 lines 34-36) (ie. exfoliating a sheet-like record medium from at least one of a surface of the fixing roller and a surface of the pressing roller after the record medium is passed through the press contact portion), and a guide member (fig. 6 part 37) for guiding the paper (ie. recording medium), wherein the separation unit is provided on an upper side of an outlet of the nip zone (as seen in fig. 6); and wherein the separation unit is provided with a roller (fig. 6 part 38; col. 8 lines 62-67) rotated in a direction of moving the paper. The roller (fig. 6 part 38) is taught to be in the shape of an abacus bead, and formed of a slippery fluorine resin (ie. synthetic resin) known for its water repellent property (col.9 lines 1-3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2852

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashino (JP 09134090) in view of Oda et al. (JP 05197305) and in view of Tomatsu (US 2002/0131801).

Hashino teaches a fixing apparatus (as seen by Fig. 1), comprising: a heating roller (fig. 1 part 1) (ie. fixing roller), a pressing roller (fig. 1 part 1), rotated by being brought into press contact with the heating roller so that a press contact portion is formed (note: last sentence of paragraph [009]); an exfoliating member (fig. 2 part 10), exfoliating a sheet (part S) (ie. sheet-like record medium) from a surface of the heating roller after the record medium is passed through the nip (fig. 2 part 3; note paragraph [0011]) (ie. press contact portion); and fixed parts (fig. 3 part 15) (ie. restricting members), provided at both end portions of the exfoliating member (as seen in Fig. 3), and brought into contact with the surface of the heating roller so that an clearance (ie. interval) between the surface of the fixing roller and the exfoliating member is restricted (note: paragraph [0021]);

Hashino also teaches a middle portion of each of the fixed parts (ie. restriction members) in an axis direction thereof (Fig. 3 shows the fixed parts 15 coming into contact with the heating rollers at an axis normal to each other) is brought into contact at a portion outside the width of the paper passage (note: last sentence in paragraph [0012]) (ie. each of both end edge portions of the heating roller).

Hashino does not teach the restricting members being brought into contact with first portions of the fixing roller in which end edge portions of the pressing roller are brought into contact with the fixing roller. Hashino also does not teach the heating roller (ie. fixing member)

Art Unit: 2852

having a middle portion and both end portions in an axis direction thereof, the middle portion being smaller than the both end portions in a diameter.

It is Oda who teaches having a press roll (Fig. 3 part 22) that is shorter in length than a fixing roll (fig. 3 part 21). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the press roll (ie. pressing roller) that is shorter in length than a fixing roller, as taught by Oda, so that the end edge portions of the press roll come into contact with the fixing roller at a point inside of where a restricting member abuts against the fixing roller. One of ordinary skill in the art would have known to make the press roll shorter in length than the fixing roller because it is already well known in the art. Other examples of such instances can be found in Nagafuji (JP 10097151) and Hamabe (JP 63182684). In addition, Oda teaches a fixing device whose purpose is to shorten the time required to bring the contact portion between the fixing roller and press roll (ie. nip portion) to a fixing temperature, and to maintain that temperature (note: abstract/constitution of the translation). Therefore, one of ordinary skill in the art would want to make the press roll as short as possible to get rid of unnecessary excess material that will not come into contact with a sheet to be fixed, which will in turn shorten the time to bring the nip portion to a fixing temperature without increasing the power to the heating element (paragraph [0014]).

It is Tomatsu who teaches a Heat roller (fig. 6 part 26) (ie. fixing member) being formed in the reversed arch crown shape (p. 5 paragraph [0092]) (ie. middle portion being smaller in diameter). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have a heating roller in the shape of a reversed arch as taught by Tomatsu, when building a fixing apparatus as taught by Hashino. One of ordinary skill in the art would

have been motivated to do so because it is well known in the art that by using such an arched heating roller will decreased the chance of creasing the paper medium (page 1 paragraph [0006]).

7. Claims 2 and 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Hashino in view of Oda et al. and in view of Tomatsu, and further in view of Matsuyama et al. (US pn 4370051).

As to claims 2 and 4, Hashino in view of Oda and in view of Tomatsu teach all of the limitations as laid out above. The three mentioned references do not teach the restricting member being arranged on an outer side of each of both end edge portions of the fixing roller.

It is Matsuyama who further teaches a photosensitive drum (fig. 2 part 6) (ie. fixing roller) having a separator pawl (fig. 2 part 21) (ie. exfoliating member) for stripping a recording paper off of the drum. The separator pawl is supported onto the photosensitive drum by pawl tips (fig. 2 part 21a) (ie. restricting member) that are in contact with grooves (fig. 2 part 6a) located at the longitudinal ends of the photosensitive drum (col. 4 lines 40-46) (ie. outer side of both end edge portions).

Although Matsuyama's invention is comprised of a photosensitive drum and not a fixing device, it is still considered analogous are because it is from the same field of endeavor of stripping a paper sheet off of a device found in an image forming apparatus. It just happens that Matsuyama deals with a separation pawl stripping the paper sheet off the photosensitive drum, and the other references pertain to stripping off the paper sheet off a fixing roller. It would have been obvious to a person of ordinary skill in the art at the time the invention was made, to have a separator pawl (ie. exfoliating member) being supported onto a photosensitive drum (ie. fixing

Art Unit: 2852

roller) by pawl tips (ie. restricting member) that are in contact with grooves located at longitudinal ends of the photosensitive (ie. outer side of both end edge portions). One of ordinary skill in the art would have been motivated to take the set up mentioned above pertaining to a photosensitive drum, and apply it to a fixing device with the parts substituted as shown above, because it allows for easy access to the fixing roller and placement of the separating part (ie. pawl/exfoliating member) in accordance to the fixing roller (col. 7 lines 4-19).

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nagafuji (JP 10097151) is cited for teaching the pressure roller shorter than the fixing roller.

Hamabe (JP 63182684) is cited for teaching the pressure roller shorter than the fixing roller.

Ohuchi et al. (US 2002/0176726) is cited for teaching a fixing device with a sheet stripping member supported onto the fixing member.

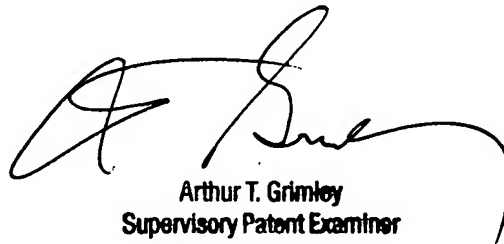
Art Unit: 2852

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Lee whose telephone number is 571-272-2846. The examiner can normally be reached on mon-fri 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PL 11/24/2004



Arthur T. Grimley
Supervisory Patent Examiner
Technology Center 2800